then a larger fourth, after which comes the dilated commencement of the small intestine. The latter might be regarded as a chamber of the stomach were it not for the fact that the ducts of the liver and the pancreas open into it. This represents one type of the Cetacean stomach, which seems to be found in all "Whales except the Ziphioids. In the latter, the oesophagus opens into the first compartment as usual; but the second division of the stomach arises not close to the entrance of the oesophagus, but at the opposite end. It would seem, therefore, as if the first division of the stomach, found in most Whales, were missing in Zipliioids. This way of looking at the matter is confirmed by the fact that in *Jfyperoodon a* remnant of the missing first stomach is found in the shape of a small diverticulum of the oesophagus just before it enters the stomach.

The essential difference between the "Whale's and the Ruminant's stomach is this: in the latter the stomach is primarily divided into two portions, of which the first is non-digestive and is clothed with oesophageal epithelium. The second, the abomasum, is the digestive region. The first part is again divided into three compartments. In the Whales, on the other hand, it is the digestive part which is again subdivided, while if the first part is divided it is not markedly so as in the Huminants.

The lungs are remarkable for their unlobulated character; in this they agree with the lungs of the Sirenia. The thoracic cavity in which they lie is barrel-shaped, and not, as is usual in terrestrial mammals, boat-shaped, *i.e.* narrower sternally than above. The alteration of the shape of the thoracic cavity is associated with the aquatic life; so at any rate the fact that it is also marked in Seals and even in the Otter seems to show. The Whales are also characterised by the great obliquity of the diaphragm, which is extremely muscular. In this character again we find an agreement with the Sirenia, and also with other aquatic mammals; it is not therefore a character of Whales so much as evidence of an adaptation to the aquatic life. The advantage is, it appears, in the increased capacity of the

thoracic cavity, and the consequent greater possibilities of expansion of the lungs, which it must be remembered serve as hydrostatic as well as breathing organs.

Borne of the internal arteries of Whales break up into
Their kidneys are tabulated;
whether this has